

# **Final Report**

## **PLA-05-42 EcoVillage Car Co-op Biodiesel Demonstration**

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### **Summary**

This is the final report for PLA-05-42, the EcoVillage Car Co-op Biodiesel Demonstration. WARM Training Center and EcoVillage Detroit were project partners overseeing this grant from January through December, 2005. The overall goals of the project were the following:

- 1) Create a carsharing nonprofit corporation with at least 6 members that can sustain itself into the future
- 2) Purchase a used diesel car and run the vehicle with at least 20% biodiesel for 80% of the time and miles driven.
- 3) Conduct a marketing and outreach campaign to highlight carsharing and biodiesel use, including:
  - a) trifold brochure
  - b) website
  - c) car decals
  - d) three (3) educational seminars
  - e) press coverage

These goals were met successfully. More details about each of these goals is included below.

### **Creating a carsharing corporation**

We began with preliminary meetings of potential members, who had expressed interest during exploratory conversations with EcoVillage members. From these meetings emerged the core group that was going to move ahead to create the organization. Motor City CarShare was incorporated in Spring 2005 as a State of Michigan nonprofit corporation. It is the group's intention to pursue 501(c)3 status with the federal government either as its own corporation, or perhaps as a project of EcoVillage Detroit. The initial plan had been to pursue 501(c)3 status solely for the CarShare, but the amount of paperwork and overhead required has led the group to explore other options. Pursuing 501(c)3 status as part of another project, such as EcoVillage Detroit, would alleviate the problem of making 501(c)3 requirements from taking over a disproportionate amount of the time and effort otherwise required to run the CarShare. The CarShare has completed a significant amount of the preparation required to apply for 501(c)3 status, but we have halted that process while the carshare members assess what future path would best serve the organization.

It took longer to incorporate than anticipated, due to an attempt to create a greater sense of inclusiveness of early members, and subsequent revisions of initial plans. One example, was an early decision to pursue 501(c)3 status earlier than first planned. The research and paperwork required for this step slowed down our timeline for incorporation. In retrospect, we would have done well to have simply stayed within the original parameters throughout that process.

## **Incorporation**

Incorporation is only way method of creating the formal identity for a carshare, but it is the generally accepted and preferred method. The advantage of incorporating is that it creates a corporate identity which is responsible for the organization. This protects the individuals who are doing work for the organization from bearing legal responsibility for the organization's operation.

While incorporating, we contacted several other for-profit and nonprofit carsharing organizations around the U.S. including Philly CarShare, Boulder CarShare, City CarShare in San Francisco, and Via Car. Via Car is a new for-profit carshare corporation in Metro Detroit that began in 2005 as well. Fortunately, we have been able to establish an amicable and cooperative relationship with the owner of Via Car, we see each other as mutually supportive in advancing the cause of carsharing in Detroit.

## **Membership**

By the end of the year, we had exactly 6 members, as per our goal. These are all people who are inspired by alternative transportation options and feel a personal commitment to the carshare. As is typical for carshare members, they are generally not people who need a car every day and are able to use other methods for many of their needs (such as public transit, walking, biking, etc.). The original goal was intended as a modest one, and we reached it. Earlier in the year, 12 people had joined the organization intending to become drivers, but 6 dropped out for a variety of reasons. A few members' lifestyles changed; for example, one got a new job and needed sole possession of a car for a regular commute. Once they had their own car, participating in the carshare became superfluous and uneconomical. For others, the membership rates were not competitive with the cost of owning and operating a privately owned "clunker." Finally, one person (and at least 3 other subsequently interested people were not able to become members because of insurance restrictions. Membership is restricted to drivers over age 25, as is standard with many carshares. This has become a standard among carshare organizations because of the higher risk of accident and, in some cases, because of higher insurance rates for younger drivers.

Of the 6 members currently in the carshare, only 3 use the service frequently now. As a result of this, we are currently reviewing our pricing structure to best fit the needs of current users. Our original pricing plan was based more on the experience of larger, more anonymous carshares, where pricing structures are used, in part, to discourage users from keeping the car for a long time, so that it will be available for other users. With our current membership, this restriction isn't really necessary. And the financial disincentive discourages use of the vehicle in some situations. Yet with such a small membership, the organization needs to encourage more use of any kind to stay financially stable.

## **The Vehicle and Fuel**

We purchased a 1996 VolksWagen diesel Passat in June 2005. It needed some minor repairs, such as replacing the tires and fixing a hole in the exhaust system. But the engine is in great shape and we're proud to have it as our "flagship."

The vehicle took us longer than anticipated to purchase, due to the lack of availability of diesel cars in the budgeted price of \$4500. Earlier research had indicated that Jettas and Passats from 1995-1998 were more readily available, but these vehicles have become much more popular due to increased interest in biodiesel. While used car websites often feature such vehicles, once we were ready to purchase we discovered that most of these vehicles were typically sold within a few days of being posted. We were lucky to have the right car come up for sale within the Metro Detroit area. The dealer received numerous calls from around the country on the very day the car was posted. Due to proximity of the vehicle, we were able to move quickly to purchase the car. Otherwise, we would have had to spend several hundred dollars to have someone drive or fly to the far south or east coast to purchase a suitable car.



Since its purchase, the Passat has operated on various blends of biodiesel, ranging from B20 to B99. The car primarily ran on at least B99 from June through October 2005. Occasionally, the biodiesel blend dropped to B30-B40 when we had to fuel at a public pump with only regular diesel or B20, or when the carshare had to supplement its own supplies of B99. The car has run on B20 – B40 since October, in order to avoid the cold weather gelling problems of higher biodiesel blends.

Our original plan was to add a second fuel tank to preheat B100 or straight vegetable oil (SVO) for use in wintertime. This second tank would be filled with B100 or SVO, but the car would still be started with B20 during the winter. Then, as the car was running on B20, heating coils would warm up the second tank and its corresponding fuel lines to liquefy any gelled fuel. However, we decided that the costs of training new users and drivers to handle this more complex arrangement outweighed the benefits. Discussion among other biodiesel users indicated that B40 would work for most Michigan weather conditions, so we were satisfied that we could still run the Passat on a higher biodiesel blend than B20. As a result, we have not made secondary fuel tank modifications to the car at this time.

Fuel procurement is still a challenge. Initial plans to have B100 delivered onsite in 100 gallon tanks from did not work out, because the supplier that delivers 100 gallon tanks does not deliver to Detroit. We are still pursuing other similar options for next summer. In the meantime, we have relied on public pumps including Wacker Oil in Manchester and the new B20 stations around Ypsilanti and Ann Arbor. At these public pumps we fill the car, as well as 6 gallon fuel containers which we then store onsite with the car. This has allowed us to refuel without making the special trip to a biodiesel pump. This method has sufficed, but is inconvenient.

Our goal is to run the vehicle on as high of a biodiesel blend as possible. Since there is currently only one public source of fuel with a blend of biodiesel higher than B20 in the area,

this goal has been challenging. The only public source of biodiesel blends higher than B20 is Wacker Oil in Manchester, MI. We have relied on users who are already going to the Ann Arbor area to make the extra hour-long round trip to Wacker Oil to procure biodiesel. One of our important goals for next year is to secure a more convenient source of B99 or B100. The most likely options at this time are either to have a large tank of fuel delivered or to produce our own fuel. Lacking sufficient overhead to produce our own fuel by ourselves, we are excited to work with Leidel Energy Services in a future biodiesel production cooperative (see final comments).

Another two vehicles have been offered for donation to the carshare once enough members are secured to warrant the need for additional vehicles. Since insurance costs are significant in Detroit, these vehicles will not be deployed until sufficient drivers are available. We were pleased to discover that the first “back-up” vehicle is a 1998 Chrysler Town and Country minivan. While not the most fuel-efficient vehicle, it does meet the needs that many potential drivers have expressed for a vehicle that can transport lots of supplies. Also, this vehicle was one of the earliest vehicles to be made E-85 ready, which would allow us to run it on another alternative fuel. A trailer has also been donated to the carshare.

## **Marketing and Outreach**

We met and exceeded most of our outreach goals. Approximately 1,400 copies of the trifold brochure have been distributed. Due to the in-house printing capabilities at WARM Training Center, these were printed as full-color brochures, creating a more appealing and professional look than originally budgeted for. A copy of the brochure was included in a quarterly report. The brochure has been distributed at relevant conferences, educational seminars, and left under the windshield wipers of the car for interested people to pick up.

A website was created at [www.motorcitycarshare.org](http://www.motorcitycarshare.org). This site includes information on the how and why of carsharing, as well as information about biodiesel. It also contains other carsharing, biodiesel and local transportation links. The original goal was for the website to reach 450 people in the first year. It received 941 visits by the end of 2005 made by 690 unique visitors. In June of 2005, the site had 37 visits by 25 unique visitors. This rose slowly through the summer and then leapt to 176 visits by 136 unique visitors in Sept and then retained similar numbers each month following in 2005. The leap in numbers followed the beginning of the group's seminars publicity.

The car decals were installed on the car and look great. The logo and website were placed in large scale covering two doors on both sides of the car, while a biodiesel sticker from [biodieselnow.com](http://biodieselnow.com) is on the back of the car above the license plate.

We conducted 5 educational seminars. These seminars were deemed highly successful by the participants, but all events received lower turn-out than anticipated. The NASCO workshop, for example had 24 people pre-registered, but only 10 attended. Seminars were held at the following:

- Great Lakes Bioneers Detroit conference, Detroit
- North American Students of Cooperation (NASCO) conference, Ann Arbor
- Alternative Transportation conference, Windsor
- Midwest Green Building conference, Monroe
- Detroit Clean Cities Coalition meeting, Detroit

*Total estimated attendance: 67*

Not all of these venues were conducive to getting participants to fill out evaluation forms afterwards. Of those that were (Bioneers, NASCO, and Midwest Green Building), the responses were very enthusiastic, including these samples:

- “This was a wonderful workshop. The leaders were well informed....”
- “Very informative.”
- “[I] really liked the session. [They] really personally catered what was taught to what we needed.”

The NASCO evaluation, which asked the questions “Should this workshop be included in next year’s conference?” received unanimous “Yes” replies.

While the number of people reached through the educational seminars was lower than anticipated, a great deal of impromptu education has continued around the carshare, and it is expected that more seminar opportunities will be available in the future. While no specific seminars are planned for 2006 yet, NASCO, Bioneers and other green building conferences are likely to request future presentations. Also, some of the ongoing outreach work of WARM Training Center and EcoVillage Detroit will highlight biodiesel and the carshare project.



For press coverage, we had hoped to get one article in Metro Detroit’s alternative weekly, The Metro Times. The Metro Times covered Motor City CarShare with a full-page story, including a picture and a mention on the magazine’s cover, on December 7, 2005. The article can be seen online at

<http://www.metrotimes.com/editorial/story.asp?id=8589>.

Press coverage was also received by Model D, an online magazine with an email and web circulation of 1,000,000.

The article can be seen online at:

<http://www.modeldmedia.com/developmentnews/carshare.aspx>. The carshare is also a member of the Sustainable Detroit network and has been featured on that website’s “Showcase”:

<http://www.sustainabledetroit.org/>.

## **Lessons Learned**

The setting of Detroit was one of the greatest challenges to establishing this organization. In a city with less sprawl, better public transportation, less poverty and more education, it would most likely be easier to recruit members for the carshare. Most other carshares are established in cities with greater density and place their cars in more middle-class neighborhoods. For example, the only carshare in Wisconsin is in Madison, the renowned college town, not Milwaukee, the more working-class major city. The very successful nonprofit carshare in Chicago, I-Go, has its cars almost all of its cars downtown or on the northside, near the lakefront, which are more affluent neighborhoods. The only southside I-Go cars in Chicago are in Hyde Park, the home of the University of Chicago. CommunAuto in Canada states that “the CommunAuto membership fee is \$500 for one person and \$750 for a joint membership, and is fully refundable upon withdrawal. Our experience has shown this is not an obstacle for people whose lifestyles and needs are compatible with car sharing.” While not explicit, this statement suggests a middle-class target audience. An extensive carsharing market analysis done for Portland Oregon found that likely carshare users fell into two different categories. One was college educated and tended to use public transportation already (in addition to other factors). The other group was not college educated, but did have an income level of \$30,000 - \$50,000 a year. By comparison, the US Census Bureau considers Detroit one of the most impoverished cities in the nation.

The other great challenge to this project was lack of time and capital. Creating a successful corporation requires a lot of investment. This project made modest plans and achieved them, but with more effort than originally budgeted for. For example, only 10 hours of the project manager’s time were allotted for incorporation of the project. In the end, approximately 50 hours was spent by two people working on this, not to mention the hours of meeting time that others spent. Some of this is due to having tackled a more aggressive plan (i.e. pursuing 501(c)3 status) and the time spent reviewing and reconsidering plans for early members. Also, 5 educational seminars were given to reach fewer people than hoped for in the 3 educational seminars planned.

Access to more start-up funds would have eased some of this transition as well. Less time would have been required finding additional volunteers for car maintenance, fuel procurement, etc. Also, while we had only planned for 6 members by the end of the year, we had nonetheless hoped to be on a trajectory for more active growth of the membership than we found ourselves at the end of the year. In retrospect this would have required more time focused on member outreach in the surrounding neighborhood. But setting up new educational seminars, as opposed to conducting seminars at venues already being organized by someone else, would have also required more time. Having more funds to pay personnel would have made it possible to put more time into these efforts.

Having planned our project for an appropriate scale, we are pleased with having accomplished our goals. Nonetheless, these challenges bear mentioning for reference in future projects.

## **Future Plans**

Now that the carshare is established, we have two primary tasks ahead. The first is simply to continue refining and improving the maintenance and operation of the carshare so that it may continue to provide people with the carsharing service and biodiesel experience, as well as function as an information center on these topics. EcoVillage Detroit and WARM Training Center both will continue their efforts to educate the public about the importance of carsharing and alternative fuels.

The second task will be to secure better access to biodiesel in Detroit. One major portion of this task will be carried out through Leidel Energy Services in partnership with WARM Training Center and MakeGood Corporation. These three partners applied for and received a Community Energy Project Grant from the Michigan Energy Office in order to set up a biodiesel production cooperative. Motor City CarShare will also continue its connection with Clean Cities initiatives and NextEnergy to pursue other fuel sources. NextEnergy is working to test biodiesel use. We have had initial discussions with them about the possibility of Motor City CarShare using their fleet pump when it becomes available.

## **For More Information**

For additional information on CarSharing, refer to the carsharing library at [www.carsharing.net](http://www.carsharing.net), the clearinghouse for carsharing information in North America. Additional information is available from the links page on the Motor City CarShare website: [www.motorcitycarshare.org](http://www.motorcitycarshare.org).